

Complete Data Sheet available via web, Harris' home page: <http://www.semi.harris.com> or via Harris AnswerFAX, see Section 17

ICM7228

August 1997

8-Digit, Microprocessor-Compatible, LED Display Decoder Driver

Features

- Improved 2nd Source to Maxim ICM7218
- Fast Write Access Time of 200ns
- Multiple Microprocessor Compatible Versions
- Hexadecimal, Code B and No Decode Modes
- Individual Segment Control with "No Decode" Feature
- Digit and Segment Drivers On-Chip
- Non-Overlapping Digits Drive
- Common Anode and Common Cathode LED Versions
- Low Power CMOS Architecture
- Single 5V Supply

Applications

- Instrumentation
- Test Equipment
- Hand Held Instruments
- Bargraph Displays
- Numeric and Non-Numeric Panel Displays
- High and Low Temperature Environments where LCD Display Integrity is Compromised

Description

The Harris ICM7228 display driver interfaces microprocessors to an 8-digit, 7-segment, numeric LED display. Included on chip are two types of 7-segment decoder, multiplex scan circuitry, LED display segment drivers, LED display digit drivers and an 8-byte static memory as display RAM.

Data can be written to the ICM7228A and ICM7228B's display RAM in sequential 8-digit update or in single-digit update format. Data is written to the ICM7228C and ICM7228D display RAM in parallel random access format. The ICM7228A and ICM7228C drive common anode displays. The ICM7228B and ICM7228D drive common cathode displays. All versions can display the RAM data as either Hexadecimal or Code B format. The ICM7228A and ICM7228B incorporate a No Decode mode allowing each bit of each digit's RAM word to drive individual display segments resulting in independent control of all display segments. As a result, bargraph and other irregular display segments and formats can be driven directly by this chip.

The Harris ICM7228 is an alternative to both the Maxim ICM7218 and the Harris ICM7218 display drivers. Notice that the ICM7228A/B has an additional single digit access mode. This could make the Harris ICM7218A/B software incompatible with ICM7228A/B operation.

Ordering Information

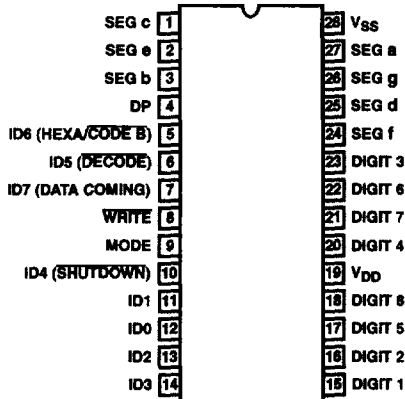
PART NUMBER	DATA ENTRY PROTOCOL	DISPLAY TYPE	TEMP. RANGE (°C)	PACKAGE	PKG. NO.
ICM7228AIP1	Sequential	Common Anode	-40 to 85	28 Ld PDIP	E28.6
ICM7228BIP1	Sequential	Common Cathode	-40 to 85	28 Ld PDIP	E28.6
ICM7228CIP1	Random	Common Anode	-40 to 85	28 Ld PDIP	E28.6
ICM7228DIP1	Random	Common Cathode	-40 to 85	28 Ld PDIP	E28.6
ICM7228AIJ1	Sequential	Common Anode	-40 to 85	28 Ld CERDIP	F28.6
ICM7228BIJ1	Sequential	Common Cathode	-40 to 85	28 Ld CERDIP	F28.6
ICM7228CIJ1	Random	Common Anode	-40 to 85	28 Ld CERDIP	F28.6
ICM7228DIJ1	Random	Common Cathode	-40 to 85	28 Ld CERDIP	F28.6
ICM7228AIB1	Sequential	Common Anode	-40 to 85	28 Ld SOIC	M28.3
ICM7228BIB1	Sequential	Common Cathode	-40 to 85	28 Ld SOIC	M28.3
ICM7228CIB1	Random	Common Anode	-40 to 85	28 Ld SOIC	M28.3
ICM7228DIB1	Random	Common Cathode	-40 to 85	28 Ld SOIC	M28.3
ICM7228AMJ1883B	Sequential	Common Anode	-55 to 125	28 Ld CERDIP	F28.6
ICM7228BMJ1883B	Sequential	Common Cathode	-55 to 125	28 Ld CERDIP	F28.6
ICM7228CMJ1883B	Random	Common Anode	-55 to 125	28 Ld CERDIP	F28.6
ICM7228DMJ1883B	Random	Common Cathode	-55 to 125	28 Ld CERDIP	F28.6

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COUNTERS

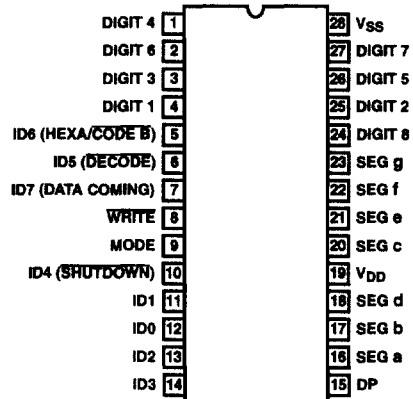
ICM7228

Pinouts

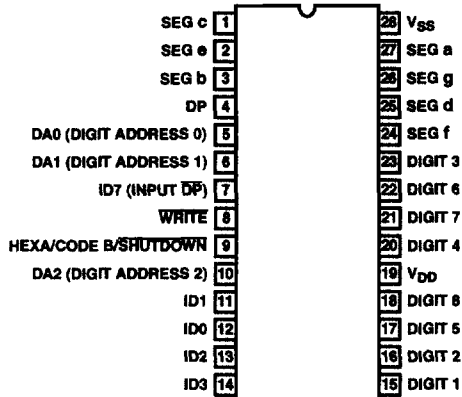
ICM7228A
(CERDIP, PDIP, SOIC)
COMMON ANODE
TOP VIEW



ICM7228B
(CERDIP, PDIP, SOIC)
COMMON CATHODE
TOP VIEW



ICM7228C
(CERDIP, PDIP, SOIC)
COMMON ANODE
TOP VIEW



ICM7228D
(CERDIP, PDIP, SOIC)
COMMON CATHODE
TOP VIEW

